



**STATE OF TENNESSEE  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL  
Lab Services - Jackson Regional Lab  
Jackson, TN 38301  
731-426-0686

TDH: Lab Services KRL  
Lab Services - Knoxville Regional Lab  
Knoxville, TN 37920  
865-549-5201

TDH: Lab Services NCL  
Lab Services - Nashville Central Lab  
Nashville, TN 37243  
615-262-6300

**Sent To:** Greg Denton  
TDEC-WPC  
6th Floor, L & C Tower Annex  
401 Church Street  
Nashville, TN 37243-1534

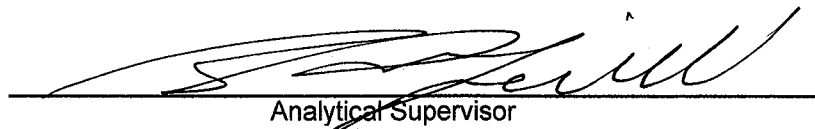
Michael Atchley  
TDEC-WPC  
Knoxville FO  
3711 Middlebrook Pike  
Knoxville, TN 37921

**Lab ID:** K00002198  
Knoxville Regional Laboratory

**Sampling Agency:** TDEC: Division of Water Pollution Control

**Billing Code:** 327.34-20

This is to certify that the following results were determined using  
good laboratory practices and in accordance with federal or state  
approved methodologies.

  
Analytical Supervisor

**Lab-Sample Number:** K00002198001  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 12.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY012.1RO  
**Date/Time Collected:** 03/05/2009 10:00  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 03/15/2009  
**Date/Time Received:** 03/05/2009 13:55  
**Received By:** S Staller

**Field Determinations**  
**pH:** 7.53 pH Units  
**Chlorine, residual:**  
**Conductivity:** 41 uMHO  
**Temperature:** 6.91  
**Dissolved Oxygen:** 13.75 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	10	mg/L	3.8	10	M Chen	3/6/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	11	mg/L	0.7	1	M Chen	3/6/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	<0.1	ml/L	0.10	0.10	P Leathers	3/6/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	3/6/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002198002  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 2.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2  
**Station No.:** EMORY002.1RO  
**Date/Time Collected:** 03/05/2009 10:57  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 03/15/2009  
**Date/Time Received:** 03/05/2009 13:55  
**Received By:** S Staller

**Field Determinations**  
**pH:** 7.22 pH Units  
**Chlorine, residual:**  
**Conductivity:** 45 uMHO  
**Temperature:** 6.39  
**Dissolved Oxygen:** 13.27 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	14	mg/L	3.8	10	M Chen	3/6/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	15	mg/L	0.7	1	M Chen	3/6/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	<0.1	ml/L	0.10	0.10	P Leathers	3/6/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	3/6/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002198003  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 1.7  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 3  
**Station No.:** EMORY001.7RO  
**Date/Time Collected:** 03/05/2009 11:14  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 03/15/2009  
**Date/Time Received:** 03/05/2009 13:55  
**Received By:** S Staller

**Field Determinations**  
**pH:** 7.10 pH Units  
**Chlorine, residual:**  
**Conductivity:** 43 uMHO  
**Temperature:** 5.68  
**Dissolved Oxygen:** 13.14 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	13	mg/L	3.8	10	M Chen	3/6/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	16	mg/L	0.7	1	M Chen	3/6/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	<0.1	ml/L	0.10	0.10	P Leathers	3/6/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	3/6/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002198004  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 0.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 4  
**Station No.:** EMORY000.1RO  
**Date/Time Collected:** 03/05/2009 11:29  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 03/15/2009  
**Date/Time Received:** 03/05/2009 13:55  
**Received By:** S Staller

**Field Determinations**  
**pH:** 7.09 pH Units  
**Chlorine, residual:**  
**Conductivity:** 48 uMHO  
**Temperature:** 6.74  
**Dissolved Oxygen:** 12.63 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	48	mg/L	3.8	10	M Chen	3/6/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	42	mg/L	0.7	1	M Chen	3/6/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	<0.1	ml/L	0.10	0.10	P Leathers	3/6/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	3/6/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002198005  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Clinch River mile 2.3 near Hwy 70 bridge  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5  
**Station No.:** CLINC002.3RO  
**Date/Time Collected:** 03/05/2009 11:41  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 03/15/2009  
**Date/Time Received:** 03/05/2009 13:55  
**Received By:** S Staller

**Field Determinations**  
**pH:** 7.72 pH Units  
**Chlorine, residual:**  
**Conductivity:** 132 uMHO  
**Temperature:** 7.77  
**Dissolved Oxygen:** 12.68 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	84	mg/L	3.8	10	M Chen	3/6/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	65	mg/L	0.7	1	M Chen	3/6/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	<0.1	ml/L	0.10	0.10	P Leathers	3/6/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	3/6/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

<b>Lab-Sample Number:</b>	K00002198006	<b>Field Determinations</b>	
<b>Project Name:</b>	TVA-Ash Spill	<b>pH:</b>	7.96      pH Units
<b>Sample Description:</b>	Clinch River mile 4.5 near Sugar Grove Valley R	<b>Chlorine, residual:</b>	
<b>Sampler Project Name:</b>	TVA Ash Spill	<b>Conductivity:</b>	211      uMHO
<b>Project Site No.:</b>	6	<b>Temperature:</b>	8.19
<b>Station No.:</b>	CLINC004.5RO	<b>Dissolved Oxygen:</b>	12.13      mg/L
<b>Date/Time Collected:</b>	03/05/2009    11:53	<b>Other:</b>	
<b>Sampler's Name:</b>	Geoff Klein	<b>Flow:</b>	CFS
<b>County:</b>	ROANE - 73		
<b>Sample Matrix:</b>	Water		
<b>EFO:</b>	Knoxville		
<b>Sampling Agency:</b>	TDEC-WPC		
<b>Billing Code:</b>	327.34-20		
<b>Send Report To:</b>	TDEC-WPC		
<b>Agency Invoiced:</b>	TDEC-WPC		
<b>Priority Date:</b>	03/15/2009		
<b>Date/Time Received:</b>	03/05/2009    13:55		
<b>Received By:</b>	S Staller		

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	M Chen	3/6/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	88	mg/L	0.7	1	M Chen	3/6/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	<0.1	ml/L	0.10	0.10	P Leathers	3/6/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	3/6/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected



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DEPARTMENT OF HEALTH  
ENVIRONMENTAL LABORATORIES**

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Nashville, TN 37243  
615-262-6300

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Nashville, TN 37243-1534

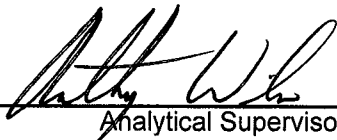
Michael Atchley  
TDEC-WPC  
Knoxville FO  
3711 Middlebrook Pike  
Knoxville, TN 37921

**Lab ID:** K00002198  
Knoxville Regional Laboratory

**Sampling Agency:** TDEC: Division of Water Pollution Control

**Billing Code:** 327.34-20

This is to certify that the following results were determined using  
good laboratory practices and in accordance with federal or state  
approved methodologies.

  
Analytical Supervisor



**Lab-Sample Number:** K00002198001  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 12.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY012.1RO  
**Date/Time Collected:** 03/05/2009 10:00  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 03/15/2009  
**Date/Time Received:** 03/05/2009 13:55  
**Received By:** S Staller

**Field Determinations**  
**pH:** 7.53 pH Units  
**Chlorine, residual:**  
**Conductivity:** 41 uMHO  
**Temperature:** 6.91  
**Dissolved Oxygen:** 13.75 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	03/06/2009				A Wilson	3/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	87	µg/L	2.9	10	A Bass	3/9/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	62	µg/L	6.4	10	M Pattanayek	3/10/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	3/10/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	3/10/2009
Barium	22	µg/L	2.5	5	M Pattanayek	3/10/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	3/10/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	3/10/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	3/10/2009
Cobalt	0.22J	µg/L	0.04	1	M Pattanayek	3/10/2009
Copper	2.5	µg/L	0.38	1	M Pattanayek	3/10/2009
Lead	0.11J	µg/L	0.10	1	M Pattanayek	3/10/2009
Manganese	21	µg/L	0.42	1	M Pattanayek	3/10/2009
Nickel	0.93J	µg/L	0.25	1	M Pattanayek	3/10/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	3/10/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	3/10/2009
Thallium	0.12J	µg/L	0.03	1	M Pattanayek	3/10/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	3/10/2009
Zinc	4.1J	µg/L	1.9	5	M Pattanayek	3/10/2009

**Lab-Sample Number:** K00002198001  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 12.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY012.1RO  
**Date/Time Collected:** 03/05/2009 10:00  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
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**Priority Date:** 03/15/2009  
**Date/Time Received:** 03/05/2009 13:55  
**Received By:** S Staller

**Field Determinations**  
**pH:** 7.53 pH Units  
**Chlorine, residual:**  
**Conductivity:** 41 uMHQ  
**Temperature:** 6.91  
**Dissolved Oxygen:** 13.75 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	3/10/2009

J - Estimated value between MDL and MQL  
 MDL - Method Detection Limit  
 MQL - Method Quantitation Limit  
 U - Undetected

**Lab-Sample Number:** K00002198002  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 2.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2  
**Station No.:** EMORY002.1RO  
**Date/Time Collected:** 03/05/2009 10:57  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 03/15/2009  
**Date/Time Received:** 03/05/2009 13:55  
**Received By:** S Staller

**Field Determinations**  
**pH:** 7.22 pH Units  
**Chlorine, residual:**  
**Conductivity:** 45 uMHO  
**Temperature:** 6.39  
**Dissolved Oxygen:** 13.27 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	03/06/2009				A Wilson	3/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	190	µg/L	2.9	10	A Bass	3/9/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	130	µg/L	6.4	10	M Pattanayek	3/10/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	3/10/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	3/10/2009
Barium	25	µg/L	2.5	5	M Pattanayek	3/10/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	3/10/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	3/10/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	3/10/2009
Cobalt	0.23J	µg/L	0.04	1	M Pattanayek	3/10/2009
Copper	0.61J	µg/L	0.38	1	M Pattanayek	3/10/2009
Lead	0.17J	µg/L	0.10	1	M Pattanayek	3/10/2009
Manganese	29	µg/L	0.42	1	M Pattanayek	3/10/2009
Nickel	0.96J	µg/L	0.25	1	M Pattanayek	3/10/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	3/10/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	3/10/2009
Thallium	0.07J	µg/L	0.03	1	M Pattanayek	3/10/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	3/10/2009
Zinc	2.8J	µg/L	1.9	5	M Pattanayek	3/10/2009

**Lab-Sample Number:** K00002198002  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 2.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2  
**Station No.:** EMORY002.1RO  
**Date/Time Collected:** 03/05/2009 10:57  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 03/15/2009  
**Date/Time Received:** 03/05/2009 13:55  
**Received By:** S Staller

**Field Determinations**  
**pH:** 7.22 pH Units  
**Chlorine, residual:**  
**Conductivity:** 45 uMHO  
**Temperature:** 6.39  
**Dissolved Oxygen:** 13.27 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	3/10/2009

J - Estimated value between MDL and MQL  
 MDL - Method Detection Limit  
 MQL - Method Quantitation Limit  
 U - Undetected

**Lab-Sample Number:** K00002198003  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 1.7  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 3  
**Station No.:** EMORY001.7RO  
**Date/Time Collected:** 03/05/2009 11:14  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 03/15/2009  
**Date/Time Received:** 03/05/2009 13:55  
**Received By:** S Staller

**Field Determinations**  
**pH:** 7.10 pH Units  
**Chlorine, residual:**  
**Conductivity:** 43 uMHO  
**Temperature:** 5.68  
**Dissolved Oxygen:** 13.14 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	03/06/2009				A Wilson	3/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	190	µg/L	2.9	10	A Bass	3/9/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	120	µg/L	6.4	10	M Pattanayek	3/10/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	3/10/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	3/10/2009
Barium	25	µg/L	2.5	5	M Pattanayek	3/10/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	3/10/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	3/10/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	3/10/2009
Cobalt	0.23J	µg/L	0.04	1	M Pattanayek	3/10/2009
Copper	1.9	µg/L	0.38	1	M Pattanayek	3/10/2009
Lead	0.21J	µg/L	0.10	1	M Pattanayek	3/10/2009
Manganese	29	µg/L	0.42	1	M Pattanayek	3/10/2009
Nickel	0.93J	µg/L	0.25	1	M Pattanayek	3/10/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	3/10/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	3/10/2009
Thallium	0.04J	µg/L	0.03	1	M Pattanayek	3/10/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	3/10/2009
Zinc	3.9J	µg/L	1.9	5	M Pattanayek	3/10/2009

**Lab-Sample Number:** K00002198003  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 1.7  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 3  
**Station No.:** EMORY001.7RO  
**Date/Time Collected:** 03/05/2009 11:14  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 03/15/2009  
**Date/Time Received:** 03/05/2009 13:55  
**Received By:** S Staller

# Field Determinations

**pH:** 7.10 pH Units  
**Chlorine, residual:**  
**Conductivity:** 43 uMHO  
**Temperature:** 5.68  
**Dissolved Oxygen:** 13.14 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	3/10/2009

J - Estimated value between MDL and MQL  
 MDL - Method Detection Limit  
 MQL - Method Quantitation Limit  
 U - Undetected

**Lab-Sample Number:** K00002198004  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 0.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 4  
**Station No.:** EMORY000.1RO  
**Date/Time Collected:** 03/05/2009 11:29  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 03/15/2009  
**Date/Time Received:** 03/05/2009 13:55  
**Received By:** S Staller

**Field Determinations**  
**pH:** 7.09 pH Units  
**Chlorine, residual:**  
**Conductivity:** 48 uMHO  
**Temperature:** 6.74  
**Dissolved Oxygen:** 12.63 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	03/06/2009				A Wilson	3/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	190	µg/L	2.9	10	A Bass	3/9/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	120	µg/L	6.4	10	M Pattanayek	3/10/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	3/10/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	3/10/2009
Barium	30	µg/L	2.5	5	M Pattanayek	3/10/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	3/10/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	3/10/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	3/10/2009
Cobalt	0.21J	µg/L	0.04	1	M Pattanayek	3/10/2009
Copper	1.5	µg/L	0.38	1	M Pattanayek	3/10/2009
Lead	0.22J	µg/L	0.10	1	M Pattanayek	3/10/2009
Manganese	30	µg/L	0.42	1	M Pattanayek	3/10/2009
Nickel	1.1	µg/L	0.25	1	M Pattanayek	3/10/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	3/10/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	3/10/2009
Thallium	0.03J	µg/L	0.03	1	M Pattanayek	3/10/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	3/10/2009
Zinc	3.2J	µg/L	1.9	5	M Pattanayek	3/10/2009

**Lab-Sample Number:** K00002198004  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 0.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 4  
**Station No.:** EMORY000.1RO  
**Date/Time Collected:** 03/05/2009 11:29  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 03/15/2009  
**Date/Time Received:** 03/05/2009 13:55  
**Received By:** S Staller

**Field Determinations**

**pH:** 7.09 pH Units  
**Chlorine, residual:**  
**Conductivity:** 48 uMHO  
**Temperature:** 6.74  
**Dissolved Oxygen:** 12.63 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.14J	µg/L	0.13	0.2	A Wilson	3/10/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected



**Lab-Sample Number:** K00002198005  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Clinch River mile 2.3 near Hwy 70 bridge  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5  
**Station No.:** CLINC002.3RO  
**Date/Time Collected:** 03/05/2009 11:41  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 03/15/2009  
**Date/Time Received:** 03/05/2009 13:55  
**Received By:** S Staller

**Field Determinations**

**pH:** 7.72 pH Units  
**Chlorine, residual:**  
**Conductivity:** 132 uMHO  
**Temperature:** 7.77  
**Dissolved Oxygen:** 12.68 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	03/06/2009				A Wilson	3/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	180	µg/L	2.9	10	A Bass	3/9/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	120	µg/L	6.4	10	M Pattanayek	3/10/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	3/10/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	3/10/2009
Barium	34	µg/L	2.5	5	M Pattanayek	3/10/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	3/10/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	3/10/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	3/10/2009
Cobalt	0.22J	µg/L	0.04	1	M Pattanayek	3/10/2009
Copper	1.6	µg/L	0.38	1	M Pattanayek	3/10/2009
Lead	0.25J	µg/L	0.10	1	M Pattanayek	3/10/2009
Manganese	30	µg/L	0.42	1	M Pattanayek	3/10/2009
Nickel	1.4	µg/L	0.25	1	M Pattanayek	3/10/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	3/10/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	3/10/2009
Thallium	0.03J	µg/L	0.03	1	M Pattanayek	3/10/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	3/10/2009
Zinc	2.6J	µg/L	1.9	5	M Pattanayek	3/10/2009

**Lab-Sample Number:** K00002198005  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Clinch River mile 2.3 near Hwy 70 bridge  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5  
**Station No.:** CLINC002.3RO  
**Date/Time Collected:** 03/05/2009 11:41  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 03/15/2009  
**Date/Time Received:** 03/05/2009 13:55  
**Received By:** S Staller

**Field Determinations**  
**pH:** 7.72 pH Units  
**Chlorine, residual:**  
**Conductivity:** 132 uMHO  
**Temperature:** 7.77  
**Dissolved Oxygen:** 12.68 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	3/10/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

<b>Lab-Sample Number:</b>	K00002198006	<b>Field Determinations</b>	
<b>Project Name:</b>	TVA-Ash Spill	<b>pH:</b>	7.96      pH Units
<b>Sample Description:</b>	Clinch River mile 4.5 near Sugar Grove Valley R	<b>Chlorine, residual:</b>	
<b>Sampler Project Name:</b>	TVA Ash Spill	<b>Conductivity:</b>	211      uMHO
<b>Project Site No.:</b>	6	<b>Temperature:</b>	8.19
<b>Station No.:</b>	CLINC004.5RO	<b>Dissolved Oxygen:</b>	12.13      mg/L
<b>Date/Time Collected:</b>	03/05/2009    11:53	<b>Other:</b>	
<b>Sampler's Name:</b>	Geoff Klein	<b>Flow:</b>	CFS
<b>County:</b>	ROANE - 73		
<b>Sample Matrix:</b>	Water		
<b>EFO:</b>	Knoxville		
<b>Sampling Agency:</b>	TDEC-WPC		
<b>Billing Code:</b>	327.34-20		
<b>Send Report To:</b>	TDEC-WPC		
<b>Agency Invoiced:</b>	TDEC-WPC		
<b>Priority Date:</b>	03/15/2009		
<b>Date/Time Received:</b>	03/05/2009    13:55		
<b>Received By:</b>	S Staller		

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	03/06/2009				A Wilson	3/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	130	µg/L	2.9	10	A Bass	3/9/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	70	µg/L	6.4	10	M Pattanayek	3/10/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	3/10/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	3/10/2009
Barium	34	µg/L	2.5	5	M Pattanayek	3/10/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	3/10/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	3/10/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	3/10/2009
Cobalt	0.17J	µg/L	0.04	1	M Pattanayek	3/10/2009
Copper	1.0	µg/L	0.38	1	M Pattanayek	3/10/2009
Lead	0.26J	µg/L	0.10	1	M Pattanayek	3/10/2009
Manganese	31	µg/L	0.42	1	M Pattanayek	3/10/2009
Nickel	1.6	µg/L	0.25	1	M Pattanayek	3/10/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	3/10/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	3/10/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	3/10/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	3/10/2009
Zinc	3.1J	µg/L	1.9	5	M Pattanayek	3/10/2009

<b>Lab-Sample Number:</b>	K00002198006	<b>Field Determinations</b>	
<b>Project Name:</b>	TVA-Ash Spill	<b>pH:</b>	7.96      pH Units
<b>Sample Description:</b>	Clinch River mile 4.5 near Sugar Grove Valley R	<b>Chlorine, residual:</b>	
<b>Sampler Project Name:</b>	TVA Ash Spill	<b>Conductivity:</b>	211      uMHO
<b>Project Site No.:</b>	6	<b>Temperature:</b>	8.19
<b>Station No.:</b>	CLINC004.5RO	<b>Dissolved Oxygen:</b>	12.13      mg/L
<b>Date/Time Collected:</b>	03/05/2009    11:53	<b>Other:</b>	
<b>Sampler's Name:</b>	Geoff Klein	<b>Flow:</b>	CFS
<b>County:</b>	ROANE - 73		
<b>Sample Matrix:</b>	Water		
<b>EFO:</b>	Knoxville		
<b>Sampling Agency:</b>	TDEC-WPC		
<b>Billing Code:</b>	327.34-20		
<b>Send Report To:</b>	TDEC-WPC		
<b>Agency Invoiced:</b>	TDEC-WPC		
<b>Priority Date:</b>	03/15/2009		
<b>Date/Time Received:</b>	03/05/2009    13:55		
<b>Received By:</b>	S Staller		

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	3/10/2009

J - Estimated value between MDL and MQL  
 MDL - Method Detection Limit  
 MQL - Method Quantitation Limit  
 U - Undetected